

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : **Mail Stop: RCE**
Mitsuaki OSHIMA et al. : Docket No. 2000_1388
Serial No. 09/677,421 : Group Art Unit 2634
Filed October 5, 2000 : Examiner Dac V. Ha
COMMUNICATION SYSTEM : **Confirmation No. 6142**



INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975

Sir:

Pursuant to the provisions of 37 CFR 1.56, 1.97 and 1.98, Patentees request consideration of the references listed on attached form PTO-1449 and any additional information identified below in paragraph 3. A legible copy of each reference listed on the Form PTO-1449 is enclosed, except a copy is not provided for:

- ☒ each U.S. Patent and U.S. Patent application publication;
- ☐ each reference previously cited in the international application PCT/_____; and/or
- ☐ each reference previously cited in prior parent application Serial No. _____.

1a. ☒ This Information Disclosure Statement is submitted:

within three months of the filing date (or of entry into the National Stage) of the above-entitled application, **or**

before the mailing of a first Office Action on the merits or the mailing of a first Office Action after the filing of an RCE,

and thus no certification and/or fee is required.

1b. ☐ This Information Disclosure Statement is submitted

after the events of above paragraph 1a and prior to the mailing date of a final Office Action or a Notice of Allowance or an action which otherwise closes prosecution in the application, and thus:

(1) ☐ the certification of paragraph 2 below is provided, **or**

(2) ☐ the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

1c. ☐ This Information Disclosure Statement is submitted:

after the mailing date of a final Office Action or Notice of Allowance or action which otherwise closes prosecution in the application, and prior to payment of the issue fee, and thus:

the certification of paragraph 2 below is provided, and

the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

2. It is hereby certified

a. ☐ that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or

b. ☐ that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of the Statement.

3. [X] Consideration of the following list of additional information (including any copending or abandoned U.S. application, prior uses and/or sales, etc.) is requested.

In the J.A.C. Bingham reference, pages 9 and 10 are advertising pages and have been omitted.

4. For each non-English language reference listed on the attached form PTO-1449, reference is made to:

- a. ☐ a full or partial English language translation submitted herewith,
- b. ☒ a foreign patent office search report (in the English language) submitted herewith,
- c. ☐ the concise explanation contained in the specification of the present application at page,
- d. ☒ the concise explanation set forth in the attached English language abstract,
- e. ☒ the concise explanation set forth below or on a separate sheet attached to the reference:

JPA H05-218978 corresponds to U.S. Patent, No. 5,243,629

JPA 2-141049 corresponds to U.S. Patent No. 4,940,954.

Japanese Patent No. 3-69295 corresponds to U.S. Patent No. 5,128,758

Japanese Patent No. 2-260726 corresponds to U.S. Patent No. 5,038,402

EP 0365431 corresponds to U.S. Patent No. 5,311,550

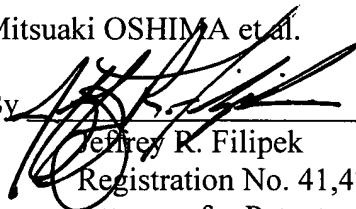
- 5. ☒ A foreign patent office search report citing one or more of the references is enclosed.
- 6. ☐ Statement Under 37 CFR 1.704(d)

Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign Patent Office in a counterpart application, and this communication was not received by any individual designated in §1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

Respectfully submitted,

Mitsuaki OSHIMA et al.

By


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July 11, 2005

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FORM PTO 1449 (modified)

ATTY DOCKET NO.
2000_1388SERIAL NO.
09/677,421U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: July 11, 2005

APPLICANT
Mitsuaki OSHIMA et al.FILING DATE
October 5, 2000GROUP
2634

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	3,824,548	7-16-74	Sullivan et al.			
	AB	3,959,726	5-25-76	Hinoshita et al.			
	AC	4,303,939	12-1-81	Stephens et al.			
	AD	4,303,941	12-1-81	Marti et al.			
	AE	4,309,726	1-5-82	Tanaka et al.			
	AF	4,535,352	8-85	Haskell			
	AG	4,564,858	1-14-86	Resch			
	AH	4,581,639	4-8-86	Judge			
	AI	4,769,819	9-6-88	Matsutani et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
	AJ	57-39629	3-4-82	Japan			abstract	
	AK	58-161427	9-26-83	Japan			abstract	
	AL	58-161547	9-26-83	Japan			abstract	
	AM	61-70861	4-11-86	Japan			abstract	
	AN	63-180222	7-25-88	Japan			abstract	

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	Masafumi SAITO et al., "Bit Error Rate Characteristics of OFDM in Multipath Environment", 1991
	AP	Ryutaro OHMOTO et al., " $\pi/4$ -shift QPSK Subcarrier Transmission", 1991
	AQ	J. A. C. Bingham, "Multicarrier Modulation for Data Transmission: An Idea Whose Time Has Come", IEEE Communications Magazine, Vol. 28, May 1990, pages 5-8 and 11-14

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,794,447	12-27-88	Tsinberg			
	AB	4,800,426	1-24-89	Glenn			
	AC	4,817,192	3-28-89	Phillips et al.			
	AD	5,007,088	4-9-91	Ooi et al.			
	AE	5,029,003	7-91	Jonnalagadda			
	AF	5,038,402	8-6-91	Robbins			
	AG	5,063,445	11-5-91	Nishizawa et al.			
	AH	5,128,758	7-7-92	Azadegan et al.			
	AI	5,134,464	7-28-92	Basile et al.			

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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
	AJ	2-94814	4-5-90	Japan			abstract	
	AK	2-218279	8-30-90	Japan			abstract	
	AL	2-260726	10-23-90	Japan				X
	AM	3-48587	3-1-91	Japan			abstract	
	AN	3-69295	3-25-91	Japan				X

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	B. Hiroaki, "An Orthogonally Multiplexed QAM System Using the Discrete Fourier Transform", IEEE Transactions on Communications, Vol. Com-29, No. 7, July 1981, pages 982-989
	AP	L. J. Cimini, Jr., "Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing", IEEE Transactions on Communications, Vol. Com-33, No. 7, July 1985, pages 665-675 and Annex
	AQ	

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,170,413	12-8-92	Hess et al.			
	AB	5,181,112	1-19-93	Citta et al.			
	AC	5,214,656	5-1993	Chung et al.			
	AD	5,218,622	6-8-93	Fazel et al.			
	AE	5,377,051	12-27-94	Lane et al.			
	AF	5,400,084	3-21-95	Scarpa			
	AG	5,802,241	9-1-98	Oshima			
	AH	5,576,902	11-19-96	Lane et al.			
	AI	5,598,220	1-97	Citta et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
	AJ	91/20137	12-26-91	WO			X	
	AK	92/22162	12-10-92	WO			X	
	AL							
	AM							
	AN							

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	
	AP	
	AQ	

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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,638,112	6-10-97	Bestler et al.			
	AB	5,819,000	10-6-98	Oshima			
	AC	5,892,879	4-6-99	Oshima			
	AD	5,999,569	12-7-99	Oshima			
	AE	6,049,651	4-11-00	Oshima			
	AF	6,256,357	7-3-01	Oshima			
	AG						
	AH						
	AI						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO	
	AJ	2,095,435	5-10-92	Canada			X	
	AK							
	AL							
	AM							
	AN							

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	AP	
	AQ	

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